

UNIVERSITY OF CALIFORNIA, BERKELEY

BERKELEY • DAVIS • IRVINE • LOS ANGELES • RIVERSIDE • SAN DIEGO • SAN FRANCISCO



SANTA BARBARA • SANTA CRUZ

TELEPHONE: (510) 642-2781
CABLE: UNIVCALB
FAX: (510) 642-7892
URL: <http://stat-www.berkeley.edu>

UNIVERSITY OF CALIFORNIA
DEPARTMENT OF STATISTICS
367 EVANS HALL # 3860
BERKELEY, CALIFORNIA 94720-3860
August 2, 2000

Mr. John H. Thompson
Associate Director for Decennial Census
Bureau of the Census
Suitland Federal Center
Suitland and Silver Hill Roads
Building 2, Room 3586
Suitland, Maryland 20233

Dear John:

This is a comment on the Federal Register notice at 65 FR 38370, and you are named as the person to whom such comments should be sent; please excuse the formality of what follows.

Census adjustment may be described as modern science, well grounded in statistical theory. The reality is more complex. If certain assumptions hold, then the census can be adjusted so as to improve accuracy. Experience from 1980 and 1990 teaches us that the requisite assumptions do not hold. The arguments in the professional literature then turn to the degree of failure in the basic assumptions, and the impact on the adjustment process. No consensus has been reached. The matter has been studied by a number of NRC panels. However, the panel reports do not even identify the key issues in dispute, much less resolve them. See, for instance, the comments by Brown et al. (1999) on Cohen et al. (1999).

The argument continues in Prewitt (2000). This document offers little by way of new analysis. Instead, it cites NRC reports and Census Bureau documents to support adjustment and rebut criticism, or offers unpublished Bureau opinion and judgment. As noted above, the NRC reports are not adequate to the task. Furthermore, the Census Bureau documents do not in the main prove the points for which they are cited. Finally, much as I respect Bureau staff, their opinions cannot be equated with scientific truth: their past judgments on adjustment issues have been too fallible. In short, the case for adjustment-- in 1990 or in 2000-- remains to be made.

Despite the weaknesses in the evidence, some senior Bureau staff have announced a decision to adjust. For all intents and purposes, the Director himself has decided to adjust-- unless there is a manifest breakdown in the operations or, I suppose, adjustment would change population shares in unanticipated ways (65 FR 38375). Apparently, decisions have been made without benefit of data from the census or the post enumeration survey, let alone evaluation studies. Tellingly, 65 FR 38371, section 101.2, does not even contemplate the possibility that the Bureau's steering committee and the director will both come out against certifying the adjusted counts for use in redistricting.

I turn to the rule proposed by the Department of Commerce in 65 FR 38370, citing Prewitt (2000) for a conclusion that adjustment "is expected to improve the overall accuracy of the census." This seems over-optimistic, as discussed above. The document suggests that adjustment is operationally feasible, which looks to be right-- although enormous resources are diverted from other Bureau activities in order to carry out the adjustment program. The document insists that

Review of the Director's decision by the Secretary of Commerce would at a minimum create the appearance that considerations other than those relating to statistical science were being taken into account, and could well allow the decision to be based on such irrelevant considerations. There is absolutely no role for non-scientific considerations in this process.

To this long-time friend of the Bureau, the promises ring hollow. The scientific basis for a pro-adjustment decision is cloudy at best. Non-scientific considerations are to be excluded. How then is the decision to be justified?

Referenced below are some recent papers bearing on the adjustment issue.

Yours sincerely,

A handwritten signature in cursive script that reads "David".

David A Freedman
Professor of Statistics

References

- L Breiman (1994). The 1991 census adjustment: undercount or bad data? *Statistical Science* 9: 458-537 (with discussion).
- LD Brown, ML Eaton, DA Freedman, SP Klein, RA Olshen, KW Wachter, MT Wells, and D Ylvisaker (1999). *Statistical Controversies in Census 2000*. *Jurimetrics* 39: 347-75.
- ML Cohen, AA White and KF Rust, eds. (1999). *Measuring a Changing Nation: Modern Methods for the 2000 Census*. National Academy Press.
- RE Fay and JH Thompson (1993). The 1990 Post Enumeration Survey: statistical lessons, in hindsight. *Proceedings, Bureau of the Census Annual Research Conference*.
- DA Freedman and WC Navidi (1992). Should we have adjusted the US census of 1980? *Survey Methodology* 18: 3-74 (with discussion).
- DA Freedman, KW Wachter, D Coster, RC Cutler and SP Klein (1993). Adjusting the census of 1990: The smoothing model. *Evaluation Review* 17: 371-443.
- DA Freedman, KW Wachter, RC Cutler and SP Klein (1994). Adjusting the census of 1990: Loss functions. *Evaluation Review* 18: 243-280.
- DA Freedman and KW Wachter (1994). Heterogeneity and census adjustment for the intercensal base. *Statistical Science* 9: 476-485 (with discussion).
- DA Freedman and KW Wachter (2000). Letter to Congressman Dan Miller.
- K Prewitt (2000). Accuracy and Coverage Evaluation; Statement on the Feasibility of Using Statistical Methods To Improve the Accuracy of Census 2000. *Federal Register* 65: 38373-38398.
- KW Wachter and DA Freedman (2000). The fifth cell: correlation bias in US census adjustment. *Evaluation Review* 24: 191-211.
- US Department of Commerce (2000). Report of Tabulations of Population to States and Localities Pursuant to 13 U.S.C. 141(c) and Availability of Other Population Information Action: Proposed rule. *Federal Register* 65 38369-38371.